

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 08 February 1999 (08.02.99)	
International application No. PCT/US98/13007	Applicant's or agent's file reference 11034WO01
International filing date (day/month/year) 22 June 1998 (22.06.98)	Priority date (day/month/year) 20 June 1997 (20.06.97)
Applicant BEAMER, Lesa, J. et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:13 January 1999 (13.01.99)☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer P. Regis
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference 11034WO01	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US98/13007	International filing date (day/month/year) 22/06/1998	Priority date (day/month/year) 20/06/1997
International Patent Classification (IPC) or national classification and IPC C07K14/47		
Applicant XOMA CORPORATION et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☒ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 18/01/1999	Date of completion of this report 23.09.99
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Herrmann, K Telephone No. +49 89 2399 2670 

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US98/13007

## I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

### Description, pages:

1-183 as originally filed

### Claims, No.:

1-25 as originally filed

### Drawings, sheets:

1/10-10/10 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

## II. Priority

1. ☐ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:
- ☐ copy of the earlier application whose priority has been claimed.
  - ☐ translation of the earlier application whose priority has been claimed.
2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid.

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Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

**see separate sheet**

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims 1-25
	No: Claims
Inventive step (IS)	Yes: Claims 1-25
	No: Claims
Industrial applicability (IA)	Yes: Claims 1-25
	No: Claims

**2. Citations and explanations**

**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

## **Citations**

The documents mentioned in this international preliminary examination report (IPER) are numbered as in the international search report dated 27.10.98, i.e. D1 corresponds to the first document of the search report etc.

### **Re ITEM II (Priority)**

Since the priority document pertaining to the present application is not yet available to the IPEA, this IPER has been drawn up considering the priority date (20.06.97) as valid. **D2** (Beamer, L.J. et al.) has been published on the priority date of the present application. Thus, said document does not constitute prior art in the meaning of Rule 64(1)(b) PCT. However, if it turns out that the effective date of the claimed subject-matter is not the priority date then **D2** will become relevant to assess whether the present application satisfies the criteria set forth in Art. 33(2) and (3) PCT.

### **Re ITEM V (Novelty, inventive step, industrial applicability)**

#### **1 Novelty (Art. 33(2) PCT)**

The subject-matter of claims 1-25 has not been made available to the public by any of the available prior art documents and can therefore be regarded as novel.

#### **2 Inventive step (Art. 33(3) PCT)**

The subject-matter of claims 1-25 cannot be derived from the available prior art in an obvious manner and therefore complies with the requirements of Art. 33(3) PCT.

#### **3 Industrial applicability (Art. 33(4) PCT)**

Claims 1-25 meet the criteria as set forth by Art. 33(4) PCT.

**Re ITEM VII (Certain defects in the international application)**

The present application contains such a high number of independent claims (13 out of 25) that the application as a whole lacks conciseness (Rule 6.1(a) PCT). Independent claims which are directed to the same category (or merely worded differently) shall be made dependent upon each other to meet the requirements of Art. 6 PCT in combination with Rule 6.4 PCT.

For example, independent claims 1, 2, 7, 8, 10, 12 and 14 are all directed to the "use of atomic coordinates". The same objection applies mutatis mutandis to independent claims 16, 17, 21 and 23-25.

**Re ITEM VIII (Certain observations on the international application)**

**Clarity of the claims (Art. 6 PCT)**

- 1 Rule 6.3(a) PCT requires that the matter for which protection is sought be defined in terms of technical features of the invention (also cf. PCT Guidelines III-4.4, as in force from 09.10.98). Independent claims shall contain all the features which are necessary to obtain the desired effect, i.e. which are necessary to solve the problem of the underlying application (determination of the 3-dimensional structure of "BPI" to the atomic level).
  - 1.1 As indicated on p. 178, 1st par. of present description the atomic coordinates can be clearly and unambiguously defined "with the format and usage established by the Protein Data Bank". The appropriate PDB ID code is, however, not given in the independent claims (Art. 6 PCT, cf. p. 178, l. 3-4) (also cf. Table 4 on p. 66-177 and Rule 6.2(a) PCT).
  - 1.2 "BPI" is an internal designation which itself does not provide a technical teaching to the skilled person. In numerous cases the designation of genes or proteins has changed over time. Claims referring to a product or a method defined by said designation therefore lack clarity.

Furthermore, the declaration of amino acid positions is without meaning if the same claim does not contain the sequence the positions are derived from (e.g. claim 5) (appropriate sequence or SEQ ID NO is not included in the independent

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claims).

- 1.3 The method of claims 1-15 is not defined by any procedural steps as in claims 16-25. For instance, claim 1 does not contain sufficient technical information to enable the skilled person to arrive at a model of a "BPI" protein.
- 2 The expression "BPI-related lipid transfer protein" or "lipid binding protein" is vague and thus renders the scope of claims 2, 8, 10, 12 and 17 unclear.
- 3 The word "about" when used in combination with ranges (claims 19 and 20) is ambiguous (cf. PCT Guidelines III-4.5a).
- 4 The category of claims 23 and 24 is not clear. For example, the "subroutine" in claim 23(b) is a method wherein a "system" could be regarded as a product.
- 5 Only six Figures have been filed with the application. Therefore, reference to "Figures 2-20" in claim 22 is senseless.
- 6 Claim 4 is erroneously referring to "Table 31".

**Sufficiency of disclosure (Art. 5 PCT)**

- 7 It is considered that the determination of the 3-dimensional structure of the "BPI" protein (SEQ ID NO:2) to the atomic level (Table 4) was a time-consuming mission.  
Therefore, the IPEA is of the opinion that the time the skilled person would require to arrive at the atomic coordinates of any "fragment", "analog", "variant" or "mutant" of "BPI" would without doubt amount to an undue burden. Any claim referring to atomic coordinates of a fragment, analog, variant or mutant of said protein does therefore not comply with Art. 5 PCT (e.g. claim 1).
- 8 The same objection applies mutatis mutandis to the subject-matter of claim 14. The description is not enabling over the whole range of compounds claimed.

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>11034W001</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/US 98/ 13007</b>	International filing date (day/month/year) <b>22/06/1998</b>	(Earliest) Priority Date (day/month/year) <b>20/06/1997</b>
Applicant <b>XOMA CORPORATION et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. ☐ Certain claims were found unsearchable (see Box I).

2. ☐ Unity of invention is lacking (see Box II).

3. ☒ The international application contains disclosure of a **nucleotide and/or amino acid sequence listing** and the international search was carried out on the basis of the sequence listing

☒ filed with the international application.

☐ furnished by the applicant separately from the international application.

☐ but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.

☐ Transcribed by this Authority

4. With regard to the **title**, ☒ the text is approved as submitted by the applicant

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this International Search Report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is:

Figure No. 1 ☒ as suggested by the applicant.

☐ None of the figures.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.



## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 98/13007

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 C07K14/47 C07K1/00 G06F17/50

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 C07K G01F G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	P W GRAY ET AL. : "Cloning of the cDNA of a human neutrophil bactericidal protein" JOURNAL OF BIOLOGICAL CHEMISTRY., vol. 264, no. 16, 5 June 1989, pages 9505-9509, XP002034856 MD US see the whole document ---	1-25
P,X	File Medline, abstract no. 97334442, 1997 XP002082313 & L J BEAMER ET AL.: "Crystal structure of human BPI and two bound phospholipids at 2.4 angstrom resolution " SCIENCE, vol. 276, no. 5320, 20 June 1997, pages 1861-1864, LANCASTER, PA US see abstract --- -/--	1-25

☒ Further documents are listed in the continuation of box C.☐ Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another, citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

27 October 1998

Date of mailing of the international search report

11/11/1998

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>File Medline, abstract no. 93104264, 1993 XP002082316 &amp; J MBONMATIN ET AL.: "Progress in multidimensional NMR investigations of peptid and protein 3-D structures in solution. From structure to functional aspects" BIOCHIMIE, vol. 74, no. 9-10, October 1992, pages 825-836, see abstract</p> <p>-----</p>	1-25